Cabinet Commission on Energy

Discussion Paper

Discussion paper on electrical rates and relief

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Introduction

The purpose of this short Discussion Paper is to provide a simplified summary of the Technical Background Paper on Electric Rates and Relief (also available through the Commission). This Discussion Paper highlights some basic public policy principles about the rate relief issue to help facilitate public input.

The options are presented as general approaches rather than fully worked out mechanisms or programs — the policy "why" rather than the operational "how to". In addition, Yukoners are invited to suggest creative options for consideration during this consultation process.

If you would like to comment on this issue, or you want a copy of the longer technical background paper, please contact:

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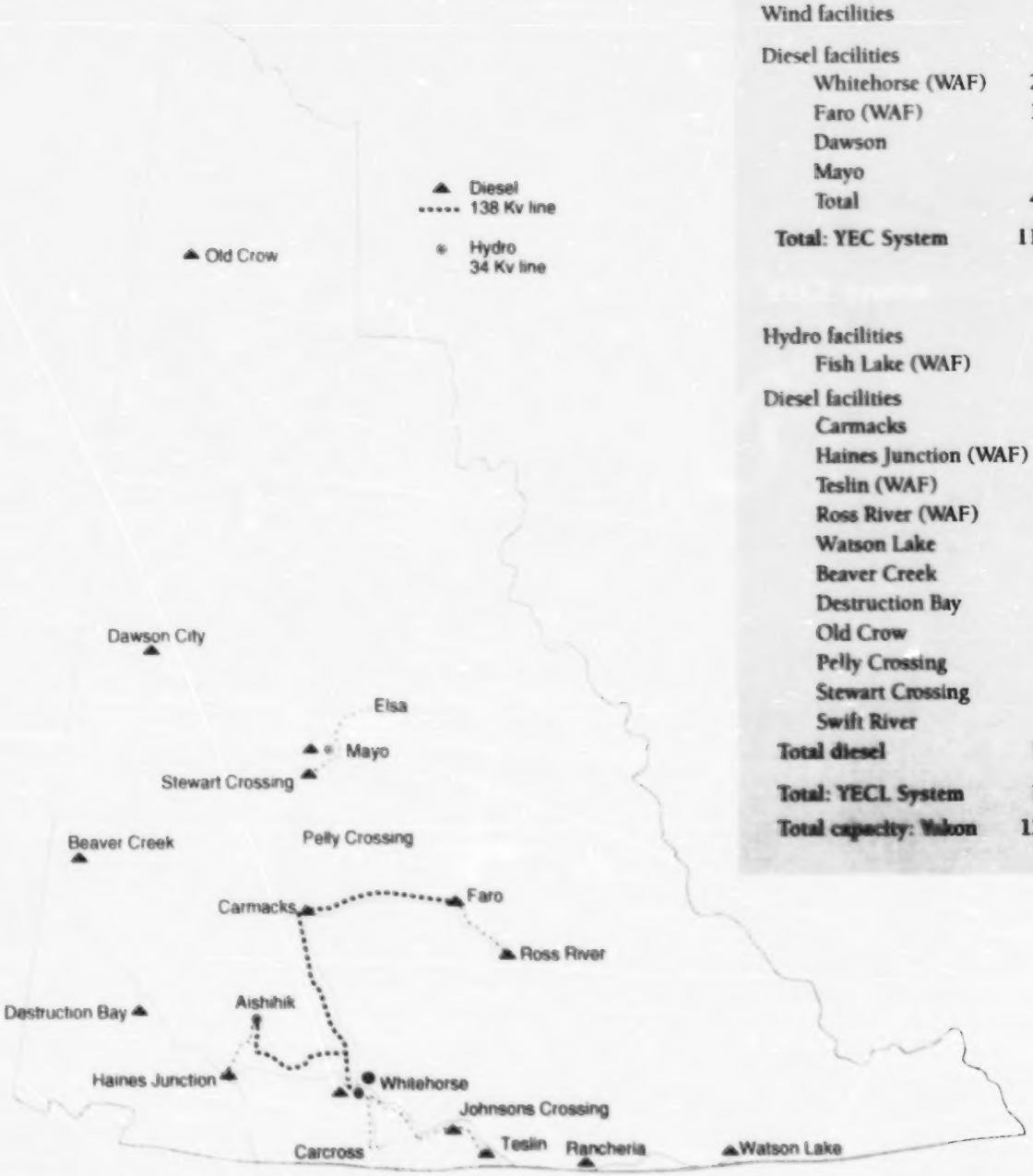
Electrical Power Facilities in the Yukon



	(in MW)
Hydro facilities	
Whitehorse (WAF)	40.0
Aishihik (WAF)	30.0
Mayo	5.0
Total	75.0
Wind facilities	0.2
Diesel facilities	
Whitehorse (WAF)	25.0
Faro (WAF)	14.0
Dawson	4.0
Mayo	1.6
Total	44.6
Total: YEC System	**119.8**
Hydro facilities	
Fish Lake (WAF)	1.6
Diesel facilities	
Carmacks	1.5
Haines Junction (WAF)	0.1
Teslin (WAF)	1.5
Ross River (WAF)	1.0
Watson Lake	5.0
Beaver Creek	0.9
Destruction Bay	0.9
Old Crow	0.7
Pelly Crossing	0.7
Stewart Crossing	0.3
Swift River	0.3
Total diesel	**12.9**
Total: YECL System	**14.5**
Total capacity: Yukon	**134.3**

Section 1

What is the issue?

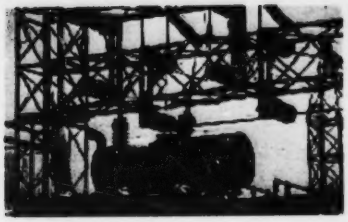
Electric power bills are affected, in part, by Yukon government electricity rate policy directives to the regulatory Yukon Utilities Board (YUB) as well as by Yukon government policies providing government-funded relief to specific electric power customers.

The Yukon government has committed to review the issue of rates with particular attention to the question of affordability for residential customers. This review addresses basic policy principles and options affecting power bills for all Yukon consumers. Two specific issues are:

1. **What types of financial assistance, if any,** should be provided to Yukon residential electric bills? Residential customer bills in Yukon are currently subsidized in several ways. These subsidy vehicles, described in more detail in the next section, include long-standing subsidies financed by other customer groups, comparatively recent government rate relief funded from YEC profits, government-funded relief to senior citizens, and government-funded relief to recipients of social assistance.

   A 1996 YUB decision directed that subsidies funded by other customer classes will be reduced in the future, resulting in rate increases specifically for residential customers. Therefore, it is timely to examine principles and options to satisfy the public need for affordable residential power.

2. **What types of policy measures, if any,** should be adopted to provide greater rate stability for all Yukon electricity ratepayers? Electricity bills for most Yukon ratepayers have been unstable and unpredictable. As a result, the government instituted rate relief funded from YEC's earnings to assist some customers. This review will examine what types of policy measures could be adopted to improve the stability and predictability of electric power rates in future.



Section 2

What is rate relief?

Most people think of the modest deduction on their itemized monthly power bill when they think of rate relief. In fact, there are several additional, invisible ways in which residential customers, in particular, are cushioned against the actual cost of servicing their domestic energy needs.

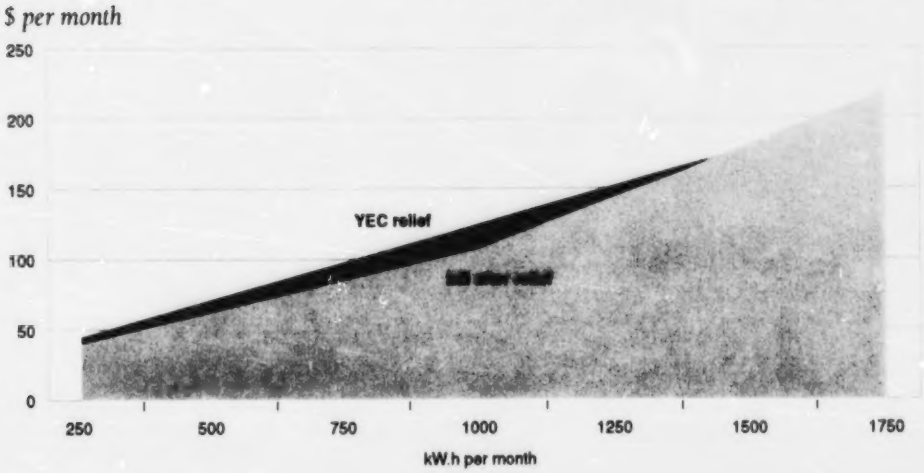
Government-funded measures

YEC-funded residential bill relief: Most Yukoners think of rate relief as the familiar government-funded subsidy on residential customers' power bill. The dollar amount of the subsidy peaks at about $18 when consumption reaches 1000 kW.h, and decreases on a sliding scale to zero at consumption levels of 1500 kW.h. This basic model provided universal relief to residential customers while encouraging energy conservation to reduce overall system costs. Aside from the additional relief provided for the duration of the Faro mine shutdown, the 1997 relief program is expected to cost between $1.1 and $1.3 million.

Pioneer Utility Grant: Senior citizens are eligible for this domestic heating subsidy funded by the Yukon government. The PUG is an annual cash grant ($600.00) and is not dependent on household income.

***Social Assistance Act*:** Recipients of social assistance benefits in the Yukon are eligible to have their electric bills paid by the Yukon government.

Chart 1. Residential bills and bill relief: September 1997



Income tax rebate: The Yukon government, pursuant to Order-in-Council 1988/150, rebates utility income taxes to non-government, non-industrial customers through a credit line item on power bills.

Rate measures

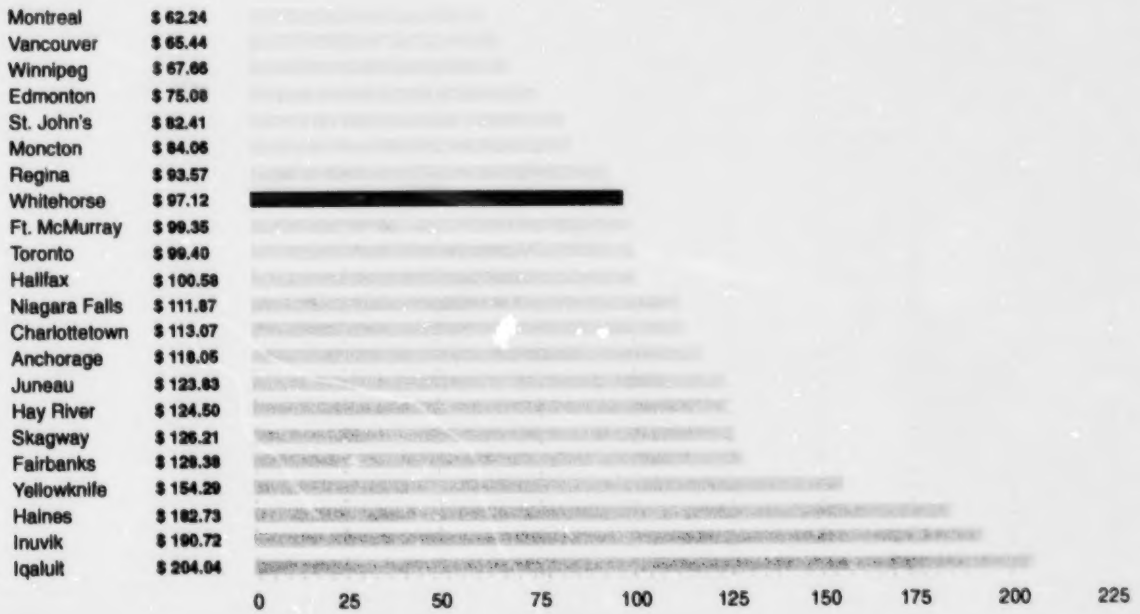
Residential cross-subsidization: There are different customer classes — residential, general service, industrial and government. Cross-subsidization means that some other classes pay more, and sometimes substantially more, than the cost of service so that residential customers can pay less. Residential customers currently pay 80 per cent of utility cost of service (on average, 73 per cent with rate relief), whereas the federal and territorial government commercial class customers pay 143 per cent of cost of service.

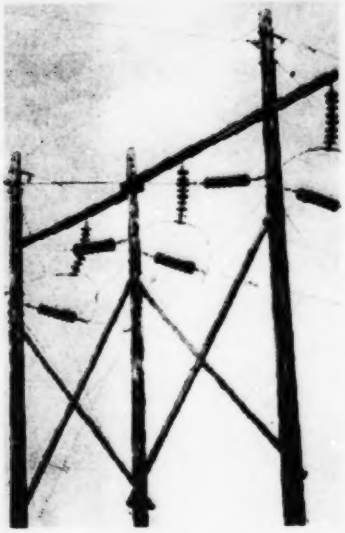
Rate equalization: It is costly, in general, to produce power in the Yukon. It can be especially costly to produce power outside the two hydro-electric served areas. Rate equalization means that there is one equalized rate for basic levels of power throughout the Yukon within each customer class. (For example, residential customers in low-cost areas subsidize residential customers in higher cost areas, without cross-subsidies between classes.) Beyond basic levels (1,000 kW.h per month for residential and 2,000 kW.h per month for commercial), differences in generating costs are reflected in electricity prices throughout the territory.

Because fairness and affordable access to electricity for all Yukoners are fundamental commitments of the Yukon government, there are no plans to change the current rate equalization policy. Our technical paper provides data on rates in other Canadian jurisdictions. A point to remember is that the Yukon's approach to YEC/YTG-funded relief for residential customers is unique, even among northern jurisdictions.

Chart 2. Residential power bills in North America: July 1997

Based on 1000 kilowatt hours per month; includes GST, riders, rate relief and income tax rebates.
Source: Yukon Electrical Company Limited, 1996.





Section 3

Why was bill relief instituted?

The price of electricity in the Yukon is much more unstable than in the rest of Canada. The longer technical paper analyzes the reasons for this in detail. Many Yukoners realize that the small population, our isolated hydro grid and subsequent inability to sell surplus hydro (e.g., when a big customer like a mine shuts down), and heavy reliance on diesel fuel with its fluctuating price, all contribute to price instability and to the challenge of rational planning in this environment.

The rate increase triggered by the 1993 and 1997 shutdowns of the Faro mine, which, when operating, uses 40 per cent of the power produced in the territory, is a good example of the sudden impact of a single event on the rates of all Yukoners.

Several other North American jurisdictions actually have higher residential prices for electricity than the Yukon, but few have more unstable prices. Even in places where higher electricity prices exist, there appears to be little public debate over price, perhaps because of greater price certainty in those jurisdictions. Many Yukoners are often ready for debate because their electric rates seem to be forever going up.

To protect residential customers from the effects of 'rate shock', YTG has instituted one form or another of bill relief since 1991. It wasn't until recently that consideration was given to need-based subsidies targeted to low income residential customers.

The idea behind bill relief in its current form was to cushion residential customers in particular against sudden price peaks. Bill relief is thus a kind of a bandaid, and obviously no substitute for long-term planning. However, because there are constant price fluctuations in the Yukon, bill relief of one kind or another has been in fairly constant use as an emergency solution since 1993, and as a result has become a kind of unplanned subsidy program.

Section 4

Some disadvantages of residential bill relief

Because of constant price peaks and the prohibitive cost of cushioning customers against 100 per cent of a price jump, the relief at any given time has been only partial. Yukoners still experience uncertainty and the price of power remains a public topic in the territory.

Bill relief has the standard disadvantage of all 'universal' subsidy programs, i.e., it's costly, and the modest individual subsidy is only a small help in households where real need exists. Also, while the program's built-in incentive not to use more than basic levels of power (1000 kW.h per month) is sound, it unfortunately excludes a group of residential customers in need. Many tenants have no choice but to heat electrically, and their winter power consumption usually exceeds 1500 kW.h monthly. Whatever their need, because of the way the program is set up, those residential customers often get no relief in winter.

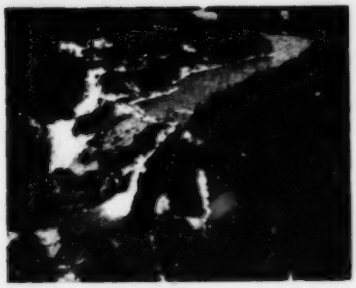
The current subsidy program is based on a limited view of affordability. In many cases, affordability is in question, not because of the dollar amount of any given bill, but because a non-stabilized rate creates uncertainty and makes it difficult for customers to budget and plan. It could be argued that price stability is a key component of affordability for the majority of customers in all classes. Thus, a stabilized rate might be a solution for most. But for some customers (e.g. those with low incomes), who experience difficulty with their power bills, stabilization without a subsidy may not be enough.

The idea of bill relief is to help make power more affordable for people, not to encourage them to use more power because it's cheaper. Many conservation-minded organizations and individuals object to any type of universal price subsidy for energy, arguing that it disguises the real cost of energy and only encourages waste. This may not always be the case, and under some conditions (e.g. targeting those in need) the public benefit of a subsidy would outweigh the disadvantages.

However, it would hardly be disputed that subsidies tend to increase power use and, perhaps, sidetrack efficiency measures which would have a double benefit, both for cost to the customer and the environment.

Bill relief has been funded via government directive out of profits from the publicly-owned Yukon Energy Corporation (YEC). Money used in this way cannot be used by the public utility for energy supply planning and development, or for demand side measures such as conservation programs. Supply planning and well-managed efficiency programs represent a better chance for long-term price stability than do subsidies.

The Yukon Utilities Board has directed YEC to move in the direction of minimizing cross-subsidization over a period of time, in line with practices in other jurisdictions. While this YUB directive is based on regulatory principles, it is not consistent with the bill relief policy desired by the Yukon government, and would eliminate current federal cross-subsidy funding of about $1 million per year. This represents the approximate difference between the federal government paying 143 per cent of its cost of service and the YUB's recommendation that it pay 110 per cent of its cost of service.



Section 5

What are the key policy principles?

Rate setting in a regulated industry sometimes seems like an arcane science, but the public policy principles governing decisions about rates are actually quite simple. The following five basic principles or goals guide decisions in the areas of rate design. They should also be considered when designing rate relief programs:

- **fairness:** costs should be fairly shared among customers and customer classes.
- **efficiency:** rates should promote cost-effective use of power by customers.
- **value of service:** rates should reflect the local competitive environment for energy services.
- **rate stability:** rate changes should be reasonably predictable and as stable as possible.
- **practical rate design:** rates should be understandable and simple to administer.

Fairness and efficiency are the two basic yardsticks by which to measure rate relief options. The challenge is in designing rates that balance fairness and efficiency. Fairness, a social policy principle, sometimes conflicts with efficiency, which is more of an economic policy principle.

Adjustments that deviate from utility cost of service, whether via direct rebate as in bill relief, or the invisible subsidies of cross-subsidization and rate equalization, represent efforts to apply the principle of fairness in rate setting. Rate equalization, for example, is meant in part to protect communities from the severe impact of a higher rate for basic levels of use. To use a different example, efficiency goals are employed in the disappearance of the residential bill subsidy in consumption over 1500 kW.h, which is meant to discourage excess use and reduce the costs of diesel generation.

Ideally, any rate relief option or combination of options should consider the criteria of affordability (fairness) while promoting the wise use of electricity (efficiency). To put it another way,

affordability measures need to consider the test of efficiency, while efficiency measures need to consider the test of affordability.

Options

The following brief discussion of options represents a synopsis of a longer discussion in the technical paper. The options are presented as broad approaches to bring to the forefront of the discussion the basic policy issues that are involved in choosing any option, and which may sometimes even be overlooked in a focused, technical discussion. The development of programs or measures based on the choice of a particular approach then becomes a technical exercise in which the broad policy goals are articulated and refined.

The government is not committed to any particular options presented, and will remain open to suggestions from all Yukoners who provide input.

There are seven options presented. The first four involve some type of direct financial assistance to residential customers. The last three can be described as stabilization measures, aimed at achieving rate stability for all groups over time.

The options are by no means mutually exclusive. For example, it would be possible, and it may be desirable, to include targeted financial assistance along with one or more rate stabilization measures.

Section 6

Four residential financial assistance options

Assistance Option 1:
Status quo

YUB rate directives: In addition to any future general rate increases, residential rates would increase over the next several years until residential customer bills reflect 90 per cent (from the current 80 per cent) of the utility cost to service this class. This means that residential prices would increase at a faster rate than the price paid by other classes. The government rate would be reduced, moving from 143 per cent to 110 per cent of cost of service.

YEC-funded bill relief: YEC-funded bill relief would continue to residential customers after 1997 at levels initially set for 1997, as previously described.

Net impact on residential bills: *Because relief would be fixed at current levels under this option, it would not cover any future rate increases required to fund higher utility costs or to increase residential rates to 90 per cent of utility costs. Residential bill increases over the next decade therefore will be significantly higher than the average increases required for other customer rate classes.*

General pros and cons: The status quo is familiar and avoids change but it will expose residential customers to significant bill increases while failing to provide either targeted assistance or efficiency opportunities. More than $1 million per year of YEC profits would be required to provide these existing levels of subsidies. Most importantly, the status quo reflects conflict with the bill relief policy desired by the Yukon government, in which certain groups in need are targeted.

Assistance Option 2:
Targeted YTG assistance without YEC subsidy funding

YUB rate directives: no change — residential rates will increase to pay 90 per cent of cost.

YEC-funded bill relief: the present residential relief would be phased out.

Yukon government targeted assistance: Future financial assistance to electricity consumers would be designed and implemented, as and when required, by Yukon government departments responsible for assessing the overall needs of specific groups. All relief would be coordinated and targeted to address customer needs and opportunities in a fair and efficient manner, and in theory, funded through government budgeting.

Net impact on residential bills: *This option would allow residential bills to increase significantly while funds for new targeted assistance would be uncertain. However, if new need-based assistance was applied, the overall result could benefit some specific groups, e.g., low income electric heat customers.*

General pros and cons: This option confirms that residential rates would be expected to recover at least 90 per cent of utility costs for serving this group. YEC-funded relief would be eliminated and funding, if obtained, would be provided solely by the Yukon government on a targeted basis to address specific needs. Rates would increase significantly for all residential customers, and fall significantly for federal and territorial government customers. Higher rates would send electricity price signals aimed at discouraging wasteful use and relief funds would be used to maximum efficiency. YEC would have over $1 million per year of additional funds for supply options, demand side management or energy efficiency programs. Seniors and low income groups would be adversely affected unless increased Yukon government funding is provided for targeted assistance programs. There is no assurance that new government funds are available for improved targeted assistance.

Assistance Option 3:
Residential class relief funded by government rates without YEC subsidy

YUB rate directives: Residential class equalized rates for basic levels of service (up to 1,000 kWh per month) would not recover more than (say) 80 per cent of utility cost of service, instead of the planned 90 per cent; funding to keep residential rates at a lower level would continue to be provided by the government commercial class. Future residential rate fluctuations would be the same as the average for all customer groups. The same would apply for government rates.

YEC-funded bill relief: The present residential bill relief funded by YEC would be phased out — same as Option 2 above.

Yukon government targeted assistance: Yukon government targeted assistance could be provided, as described in Option 2 above.

Net impact on residential bills: *Increases in average residential bills would be moderated considerably compared to Option 2, and would likely be moderated slightly more than under the status quo option, provided additional funding from the Yukon government budget was obtained for targeted assistance.*

General pros and cons: This option confirms that basic levels of residential use would be subsidized by higher than cost government class rates. Targeted financial assistance would be provided by the Yukon government as required, subject to available government budgets. Residential customer energy efficiency incentives will be weaker than under Options 1 and 2. As under Option 2, YEC would have over $1 million per year of additional funds for energy efficiency programs and the development of power supply.

Assistance Option 4:
YEC-funded targeted residential assistance

YUB rate directives: The government class would continue to subsidize basic levels of power use for residential customers, as described in Option 3.

YEC-funded bill relief: Universal residential bill relief funded by YEC would be phased out as under Options 2 and 3. Targeted residential assistance would be managed by YTG and enhanced by funding from a portion of YEC profits.

Net impact on residential bills: *New funding for targeted residential assistance initiatives would help those residential customers most in need, though the average residential bill would increase, as described in Option 3, as most residential customers would not be eligible to receive targeted relief. Continued cross-subsidization of residential rates by the government class would provide the same benefits to residential bills as in Option 3.*

General pros and cons: Compared with Option 3, YEC funding would be used to increase financial assistance to targeted residential groups. However, a formula for determining a percentage or level of YEC earnings available for this purpose would have to be determined. The amount forecast for relief might not always be available after other factors are known (for example, fluctuations in YEC's capital requirements and rate of return from year to year). This could result in fluctuations from year to year in this assistance unless increased YTG budgets are provided as required to ensure stable funding. Compared with Options 2 or 3, YEC will have less funds for energy efficiency programs and the development of power supply.

Section 7

Three rate stabilization options

Stabilization Option 1:
Status quo — short-term cost recovery

Rate policy and stabilization funding: Current rate policy focuses on recovery of utility costs over a one to two year period. Rate 'riders' adjust rates up or down from time to time in response to such factors as fuel price changes. The recently created Diesel Contingency Fund (DCF) is the only customer-funded stabilization fund currently in existence. However, the DCF is only meant to be used when there is a fluctuation in water availability, for example, a change in Yukon River flows affecting the average cost of power generation.

Infrastructure and load development: The lower rates available today when the Faro mine is operating reflect the current state of hydro facility development in the Yukon. The status quo offers no clear policy to develop new cost effective, non-diesel generation facilities to reduce costs without creating greater rate instabilities. No such facilities have been built in the past decade.

Net impact on customer bills: *Bills for all customers can be quite unpredictable under the status quo. Residential customers have been partly sheltered by bill relief. But all customers would likely face bill increases ranging between 15 and 25 per cent the next time the Faro mine closes.*

General pros and cons: Few other jurisdictions have had greater electric rate instability over the past decade. For example, each Faro mine closure has been dealt with as an emergency requiring significant and immediate rate increases for all customers.

Stabilization Option 2:
Modified rate policy and stabilization funding

Rate policy and stabilization funding: There are many different rate stabilization options that might benefit all customer groups. For example, the use of rate riders might be reviewed. A longer time horizon for rate planning could also be substituted for the current typical two test years. A new stabilization fund and/or changed rules for the DCF might also help fund at least some costs associated with the mine closure.

Infrastructure and load development: No change. Modified rate policy and stabilization funding will not have any direct impact on infrastructure and load development.

Net impact on customer bills: *All customer groups would be affected equally and greater rate stability would be possible under some conditions.*

General pros and cons: Short-term rate changes, as provided by rate riders, ensure that changing utility costs are 'matched' through changes to customer rates. Reducing the use of rate riders would tend to result in smoother and more predictable rate changes, but would disguise utility costs and confuse the price signals sent to consumers. There are also practical difficulties involved. It won't be easy, for example, to forecast the requirements of a stabilization fund, and the requirements themselves could lead to rate instabilities. This option would complement, rather than be a substitute for, Option 3.

Stabilization Option 3:
Modified infrastructure and load development

Rate policy and stabilization funding: No change. Modified infrastructure and load development will not directly change rate policy and stabilization funding. By providing long-term advantages, it could, however, lessen requirements for such measures as stabilization funds.

Infrastructure and load development: Options could include diversification in future power supply sources (beyond diesel and hydro) plus extension of the hydro grid. However, such options depend on load growth and more stable system loads, which are impossible to predict with certainty. Rate sensitivity to the Faro mine operation in particular could be reduced through the development of some types of additional system loads to the main power grid — including new mine loads. However, there are obvious financial risks to be addressed in adding new infrastructure in response to new loads.

Net impact on customer bills: *Cost effective development of non-diesel infrastructure could be effective in stabilizing rates over the long-term. In particular, new mine customers on the main grid could reduce the burden to all customers the next time the Faro mine closes. However, without government policy changes, it would be impossible to guarantee future loads and building additional infrastructure can bring greater financial risks to all customers, this option does not guarantee stability for customer bills.*

General pros and cons: There are obvious risks to be managed in adding new mine loads as well as new non-diesel generation or transmission infrastructure. However, Yukon's existing low cost hydro facilities were developed in the past in response to similar load development. Yukon government policy could be examined to address load risk concerns, in part, through infrastructure financing policies such as flexible debt financing. This option would complement, rather than be a substitute for, Option 2.

Summary

This discussion paper highlights two kinds of options — financial assistance options and rate stabilization options — for dealing with unstable electricity prices. Both approaches have been discussed in this paper. Public input may also identify other possible options that merit similar attention today regarding electric rate and relief policy after 1997. More detailed information is available in our Technical Document; please contact the commission if you would like a copy.

The seven options presented are intended to stimulate discussion and encourage creative new proposals from Yukoners for consideration during the Commission's review.

Your input would be appreciated. To forward your suggestions, please contact the Yukon government's Cabinet Commission on Energy.